

The present study on material collected from the eastern Himalayan region clearly shows no difference in trunk limb morphology of females. Unfortunately, no males were found. Since male morphology is considered decisive for the taxonomy of most Cladocera (Venkataraman 1995), efforts should be made to study the males of the present species from remote areas in the Himalaya.

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### 32. NEW RECORD OF THE MUD SNAIL, *HYDROBIA* (MOLLUSCA : GASTROPODA) FROM THE MANGROVE HABITAT OF INDOPACIFIC REGION

During an intensive survey of the macrobenthos of Cochin mangroves in Kerala by Sunil Kumar (1993), *Hydrobia* sp. was collected from the intertidal soil habitat. In the entire two-year period of study, large numbers of mud snails (Hydrobiidae) were found in the mangrove subsoil. Survey of the literature revealed that this occurrence of the mud snail, *Hydrobia*, is the first record from the Indian mangrove environment and from the mangrove systems of the Indo-Pacific region, including South Africa, Malaysia, Thailand, Australia, Japan and Hawaii.

The ecology and distribution of mud snails (Hydrobiidae) was worked on by Nicol (1936), Spooner and Moore (1940), Newell (1962, 1965), Fenchel (1975a, b), Wells (1978), Barnes (1979), and Walters and Wharfe (1980). However, the

species has not been reported from the mangrove ecosystem.

In India, Pillai and Appukuttan (1980), while studying the molluscs in and around the coral reefs of the southeastern coast of India, compared the mangrove-associated molluscs of that area in Manauli Island with those of the mangrove forms of the East Indies (Cooman, 1969) and Western Indian Ocean (Taylor 1968). They stated that Indian mangroves have faunal elements from both eastern and western parts of the Indian Ocean. However, in their work there was no report on the distribution of the infaunal mollusc, *Hydrobia*.

A comparison of the mangrove molluscan fauna of south India with that of Malaysia (Berry 1963) and South Africa (Macnae 1963, Brown 1971) has been done by Kasinathan and

Shanmugam (1985), who opined that south Indian and Malayan mangroves have a greater affinity for molluscan fauna than the mangroves of South Africa and south India. However, *Hydrobia* was not reported in the study.

Faunal surveys, including the molluscan fauna, have been carried out in different mangrove ecosystems of the Indo-Pacific region (Walsh 1967, Macnae 1967, 1968, Sasekumar 1974, Frith *et al.* 1976, Wells 1983, Shokita *et al.* 1989, Omori 1989) including India (Sunil Kumar 2000). None of these epifaunal and infaunal studies on intertidal mangrove areas reported the occurrence of *Hydrobia* sp., except Sunil Kumar (1993), from Cochin. Hence, from the literature stated above, it is to be noted that

*Hydrobia* was earlier reported from areas other than mangrove habitats. The occurrence of *Hydrobia* sp. in the Cochin mangrove soil is, therefore, the first record from Indian mangroves and from other mangrove environments of the Indo-Pacific region.

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### 33. MANGROVE CLAM *GEOLOINA EROSA* (SOLANDER, 1786) FROM CORINGA (GODAVARI) ESTUARY: A NEW RECORD FOR ANDHRA PRADESH

During a faunistic survey of Coringa (Godavari) estuary (c. 16° 30'-17° 00' N and 82° 14'-82° 23' E) in August 1999, 3 molluscan shells were collected which were identified as *Geloina erosa* (Solander 1786). The mangroves *Avicennia marina*, *Exoecaria agallocha* and *Sonneratia apetala* dominate the habitat from which the shells were collected. The antero-posterior axis of the shell (bearing a distinct flexure extending from the umbo to the mid-posterior margin) ranged between 52 and 68 mm.

This species was reported as common along the mangroves of the Indian Ocean, extending its range further east into the Pacific Ocean (Prashad 1932). The information about its distribution in Indian waters is limited. Specimens were collected in the past from False

Point, Andaman and Nicobar Islands, Mahanadi river (Mitra *pers. comm.*) and the Mandovi estuary (Ingole *et al.* 1994). The species has not been recorded from Coringa (Godavari) estuary and thus, constitutes a new record.

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### 34. TWO NEW PLANT RECORDS FOR INDIA FROM SIKKIM

(With two text-figures)

Botanical explorations undertaken in the state of Sikkim since 1980 have resulted in a collection of more than 19,000 field numbers in

the Herbarium of Sikkim Himalayan Circle, Botanical Survey of India, Gangtok. Study of some of these collections, resulted in identifying